

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/15741

A. CLASSIFICATION OF SUBJECT MATTER  
Int.Cl.<sup>7</sup> H01L23/36, H01L23/373

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
Int.Cl.<sup>7</sup> H01L23/36, H01L23/373

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Toroku Jitsuyo Shinan Koho	1994-2004
Kokai Jitsuyo Shinan Koho	1971-2004	Jitsuyo Shinan Toroku Koho	1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 63-124555 A (Sumitomo Electric Industries, Ltd.), 28 May, 1988 (28.05.88), Page 2, upper right column, line 4 to lower left column, line 9 (Family: none)	1-4, 6-11, 17, 18, 20
Y	JP 2001-332798 A (Victor Company Of Japan, Ltd.), 30 November, 2001 (30.11.01), Par. Nos. [0006] to [0009] (Family: none)	1-4, 6-11, 17, 18, 20

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

\* Special categories of cited documents:  
 "A" document defining the general state of the art which is not considered to be of particular relevance  
 "E" earlier document but published on or after the international filing date  
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  
 "O" document referring to an oral disclosure, use, exhibition or other means  
 "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  
 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone  
 "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art  
 "&" document member of the same patent family

Date of the actual completion of the international search  
08 March, 2004 (08.03.04)

Date of mailing of the international search report  
23 March, 2004 (23.03.04)

Name and mailing address of the ISA/  
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## INTERNATIONAL SEARCH REPORT

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PCT/JP03/15741

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5412160 A (KABUSHIKI KAISHA TOSHIBA), 02 May, 1995 (02.05.95), Column 4, lines 6 to 23 & JP 6-326431 A Par. No. [0015] & KR 153039 B1	1-4, 6-11, 17, 18, 20
Y	JP 62-180073 A (Ricoh Co., Ltd.), 07 August, 1987 (07.08.87), Page 2, lower left column, line 9 to page 4, upper right column, line 9 (Family: none)	2-4, 6-11, 17, 18, 20
Y	JP 62-157602 A (Kaneka Corp.), 13 July, 1987 (13.07.87), Claims 1 to 9; page 3, upper left column, line 12 to page 3, upper right column, line 20; page 4, lower left column, line 15 to page 4, lower right column, line 20 (Family: none)	2-4, 6-11, 17, 18, 20
A	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 118194/1984 (Laid-open No. 33463/1986) (Dainichi-Nippon Cables, Ltd.), 28 February, 1986 (28.02.86), Page 3, line 13 to page 4, line 8 (Family: none)	5, 19
A	US 4971667 A (SEMICONDUCTORENERGY LABORATORY CO., LTD.), 20 November, 1990 (20.11.90), Full text & JP 1-286911 A & CN 1036681 A & EP 327406 A	12-16

From the INTERNATIONAL BUREAU

**PCT**NOTICE INFORMING THE APPLICANT OF THE  
COMMUNICATION OF THE INTERNATIONAL  
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

To:

NAKAJIMA, Jun  
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Seventh Floor, HK-Shinjuku Bldg., 3-17, Shinjuku 4-chome  
Shinjuku-ku, Tokyo 160-0022  
JAPONDate of mailing (day/month/year)  
24 June 2004 (24.06.2004)Applicant's or agent's file reference  
TC-F03008-00**IMPORTANT NOTICE**International application No.  
PCT/JP2003/015741International filing date (day/month/year)  
09 December 2003 (09.12.2003)Priority date (day/month/year)  
09 December 2002 (09.12.2002)

Applicant

KABUSHIKI KAISHA TOYOTA CHUO KENKYUSHO et al

1. Notice is hereby given that the International Bureau has **communicated**, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this notice:

AU, AZ, BY, CH, CN, CO, DZ, EP, HU, JP, KG, KP, KR, MD, MK, MZ, RU, TM, US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE, AG, AL, AM, AP, AT, BA, BB, BG, BR, BZ, CA, CR, CU, CZ, DE, DK, DM, EA, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, ID, IL, IN, IS, KE, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MG, MN, MW, MX, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, SC, SD, SE, SG, SK, SL, SY, TJ, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this notice is a copy of the international application as published by the International Bureau on 24 June 2004 (24.06.2004) under No. WO 2004/053984

4. **TIME LIMITS for filing a demand for international preliminary examination and for entry into the national phase**

The applicable time limit for entering the national phase will, **subject to what is said in the following paragraph**, be **30 MONTHS** from the priority date, not only in respect of any elected Office if a demand for international preliminary examination is filed before the expiration of **19 months** from the priority date, but also in respect of any designated Office, in the absence of filing of such demand, where Article 22(1) as modified with effect from 1 April 2002 applies in respect of that designated Office. For further details, see *PCT Gazette* No. 44/2001 of 1 November 2001, pages 19926, 19932 and 19934, as well as the *PCT Newsletter*, October and November 2001 and February 2002 issues.

In practice, **time limits other than the 30-month time limit** will continue to apply, for various periods of time, in respect of certain designated or elected Offices. For **regular updates on the applicable time limits** (20, 21, 30 or 31 months, or other time limit), Office by Office, refer to the *PCT Gazette*, the *PCT Newsletter* and the *PCT Applicant's Guide*, Volume II, National Chapters, all available from WIPO's Internet site, at <http://www.wipo.int/pct/en/index.html>.

For filing a **demand for international preliminary examination**, see the *PCT Applicant's Guide*, Volume I/A, Chapter IX. Only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination (at present, all PCT Contracting States are bound by Chapter II).

It is the applicant's **sole responsibility** to monitor all these time limits.

The International Bureau of WIPO  
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1211 Geneva 20, Switzerland

Authorized officer

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